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| 10/528,579      | 03/21/2005  | Lutz Telljohann      | P70214US0           | 8668             |

136 7590 12/18/2006  
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| EXAMINER |
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HINZE, LEO T

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| ART UNIT | PAPER NUMBER |
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2854

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 12/18/2006 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/528,579

Applicant(s)

TELLJOHANN, LUTZ

Examiner

Leo T. Hinze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 14, it is unclear how a vacuum source is used and arranged to increase a rate of the gas flow. The specification mentions "suckers" on p. 3, but they are not shown in the figures, and it is not clear where they are arranged, or how suckers can increase the airflow. Because the examiner is unable to determine what the suckers are, where they are arranged, and how they operate, the examiner is unable to examine the claim with respect to the prior art.

Appropriate correction and/or clarification is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 10, 11, 18-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi et al., US 6,546,866 B1 (hereafter Adachi) in view of Hornschuh et al., US 20010021420 A1 (hereafter Hornschuh).

a. Regarding claims 10 and 21:

Adachi teaches a rotary printing machine comprising: an ink reservoir (6, Fig. 1) containing ink for flexographic printing, having a mixture ratio of color pigments and a volatile solvent ("water content of the ink," col. 1, ll. 60-61); an ink transfer roller (4, Fig. 1) that transfers the ink for application to a print substrate from the ink reservoir; and the intensity of the ink applied to the print substrate being adjustable by effecting the solvent evaporation so as to adjust the ink mixture ratio (evaporation of the solvent changes viscosity, col. 1, ll. 60-61).

Adachi does not teach a mechanism for effecting evaporation of the solvent from at least one ink transfer roller.

Hornschuh teaches that evaporation affects the concentration of solvent in the ink, affecting the intensity of the ink, and that the intensity of the ink applied to the print substrate can affect the quality of the final printed product ("large portion of the ink on the roller evaporates," ¶11; "variations within the mixture of solvent and solids result in changes of the colors of the printed image and impair the capability of expression," ¶ 13).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a mechanism for effecting evaporation of the solvent from at least one ink transfer roller, because Hornschuh teaches that evaporation of the solvent can affect the colors of the printed image, and a person having ordinary skill in the art

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would recognize that it would be advantageous for having a mechanism to precisely control, through evaporation, the amount of solvent in the ink, and therefore the quality of the printed output.

b. Regarding claims 11 and 22, the combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claims 10 and 21 above. Adachi also teaches wherein the intensity of the ink applied to the print substrate increases with increased solvent evaporation and decreases with decreased solvent evaporation, as this relationship between ink intensity and solvent concentration is an inherent property of an ink containing a solvent.

c. Regarding claim 18:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach a second ink reservoir containing ink for applying additional ink to the ink transfer roller, the second ink reservoir located in a transfer direction between the ink transfer roller and the mechanism for affecting solvent evaporation.

It has been held that mere duplication of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI)(B).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a second ink reservoir, because a person having ordinary skill in the art would recognize that a second ink reservoir would provide the opportunity to increase the amount of ink pigment on the ink transfer roller.

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d. Regarding claim 19:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach wherein the mechanism for effecting solvent evaporation operates on a first portion of the ink transfer roller, and further comprising at least a second mechanism for effecting solvent evaporation that operates on another portion of the ink transfer roller.

It has been held that mere duplication of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI)(B).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a second mechanism for effecting solvent evaporation, because a person having ordinary skill in the art would recognize that a second mechanism for effecting solvent evaporation would provide the opportunity to increase the amount of ink pigment on the ink transfer roller.

e. Regarding claim 20, the combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above. The combination of Adachi and Hornschuh, also teaches wherein the mechanism for effecting solvent evaporation is controllable so as to adjust an amount of the evaporation and thereby, the ink mixture ratio and the intensity of the ink applied to the print substrate, because the person having ordinary skill in the art, upon adding a mechanism for effecting solvent evaporation as described in the rejections above, would recognize the advantages of making the mechanism controllable.

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f. Regarding claim 23:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach a plurality of the ink reservoirs containing ink; and a corresponding plurality of the mechanisms for effecting solvent evaporation, each of the mechanisms for effecting solvent evaporation being located, in a direction of ink transfer to the print substrate, following each corresponding ink reservoir.

It has been held that mere duplication of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI)(B).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a second ink reservoir and a second mechanism for effecting solvent evaporation, because a person having ordinary skill in the art would recognize that duplicating these parts would provide the opportunity to increase the amount of ink pigment on the ink transfer roller.

g. Regarding claim 24:

Adachi teaches a method of adjusting ink intensity on a print substrate of a rotary printing machine, comprising the steps of: supplying ink for flexographic printing from an ink reservoir (6, Fig. 1) to an ink transfer roller (4, Fig. 1) that transfers the ink for application to a print substrate, the reservoir ink having a mixture ratio of color pigments and a solvent ("water content of the ink," col. 1, ll. 60-61; evaporation of the solvent changes viscosity, col. 1, ll. 60-61).

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Adachi does not teach effecting evaporation of the solvent from the ink on the ink transfer roller so as to adjust the ink mixture ratio, and thereby adjust the intensity of the ink applied to the print substrate.

Hornschuh teaches that evaporation affects the concentration of solvent in the ink, affecting the intensity of the ink, and that the intensity of the ink applied to the print substrate can affect the quality of the final printed product ("large portion of the ink on the roller evaporates," ¶11; "variations within the mixture of solvent and solids result in changes of the colors of the printed image and impair the capability of expression," ¶ 13).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to effect evaporation of the solvent from the ink on the ink transfer roller so as to adjust the ink mixture ratio, and thereby adjust the intensity of the ink applied to the print substrate, because Hornschuh teaches that evaporation of the solvent can affect the colors of the printed image, and a person having ordinary skill in the art would recognize that it would be advantageous for having a mechanism to precisely control, through evaporation, the amount of solvent in the ink, and therefore the quality of the printed output.

h. Regarding claim 25, the combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 24 above. The combination of Adachi and Hornschuh, also teaches wherein increasing the solvent evaporation increases the intensity of the ink applied to the print substrate, and decreasing the solvent evaporation decreases the intensity of the ink applied to the print substrate, as this relationship between ink intensity and solvent concentration is an inherent property of an ink containing a solvent.



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i. Regarding claim 26, the combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 24 above. The combination of Adachi and Hornschuh, also teaches wherein the step of affecting solvent evaporation is controllable so as to adjust an amount of the evaporation and thereby, the ink mixture ratio and the intensity of the ink applied to the print substrate, because the person having ordinary skill in the art, upon adding a mechanism for effecting solvent evaporation as described in the rejections above, would recognize the advantages of making the mechanism controllable.

j. Regarding claim 29:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 24 above.

The combination of Adachi and Hornschuh does not teach supplying ink from a second ink reservoir, and effecting solvent evaporation from the second reservoir ink supplied to the ink transfer roller.

It has been held that mere duplication of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI)(B).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a second ink reservoir, because a person having ordinary skill in the art would recognize that a second ink reservoir would provide the opportunity to increase the amount of ink pigment on the ink transfer roller.

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5. Claims 12, 13, 16, 17, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi in view of Hornschuh as applied to claims 10 and 24 above, and further in view of Grosshauser, US 4,753,165 (hereafter Grosshauser).

a. Regarding claim 12:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach wherein the mechanism for effecting solvent evaporation is a blower that flows a gas onto the ink transfer roller.

Grosshauser teaches a mechanism for evaporating solvent in an ink, wherein the mechanism is a blower (5, Fig. 1) that flows a gas onto an ink transfer roller (6, Fig. 1).

It would have been obvious to a person having ordinary skill in the art to modify Adachi to include a blower that blows air over the ink transfer roller, because Grosshauser teaches that a blower is an effective mechanism for evaporating solvent from ink.

b. Regarding claim 13, the combination of Adachi, Hornschuh, and Grosshauser teaches all that is claimed as discussed in the rejection of claim 12 above. Grosshauser, as combined above, also teaches wherein the gas is air ("dried air," col. 3, l. 65).

c. Regarding claim 16, the combination of Adachi, Hornschuh, and Grosshauser teaches all that is claimed as discussed in the rejection of claim 10 above. Grosshauser, as combined above, also teaches wherein the mechanism for effecting solvent evaporation separates a laminar boundary layer adhering to the ink transfer roller, as the blowing of air from the Grosshauser

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mechanism would certainly upset any laminar boundary layer of air adhering to the ink transfer roller.

d. Regarding claim 17:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach wherein the mechanism for effecting solvent evaporation heats the ink transfer roller.

Grosshauser teaches a mechanism for evaporating solvent in an ink, wherein the mechanism is a heated ink roller (6, Fig. 1; "ink transport cylinder 6 is heated," col. 3, l. 44), which evaporates the solvent (col. 3, l. 55).

It would have been obvious to a person having ordinary skill in the art to modify Adachi to include a heated ink transfer roller, because Grosshauser teaches that a heated ink transfer roller is an effective mechanism for evaporating solvent from ink.

e. Regarding claim 27:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 24 above.

The combination of Adachi and Hornschuh does not teach wherein the step of effecting solvent evaporation includes flowing a gas onto the ink transfer roller.

Grosshauser teaches a mechanism for evaporating solvent in an ink, wherein the mechanism is a blower (5, Fig. 1) that flows a gas onto an ink transfer roller (6, Fig. 1).

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It would have been obvious to a person having ordinary skill in the art to modify Adachi wherein the step of effecting solvent evaporation includes flowing a gas onto the ink transfer roller, because Grosshauser teaches that a blower is an effective mechanism for evaporating solvent from ink.

f. Regarding claim 28:

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

The combination of Adachi and Hornschuh does not teach wherein the step of effecting solvent evaporation includes heating the ink on the ink transfer roller.

Grosshauser teaches a mechanism for evaporating solvent in an ink, wherein the mechanism is a heated ink roller (6, Fig. 1; "ink transport cylinder 6 is heated," col. 3, l. 44), which evaporates the solvent (col. 3, l. 55).

It would have been obvious to a person having ordinary skill in the art to modify Adachi wherein the step of effecting solvent evaporation includes heating the ink on the ink transfer roller, because Grosshauser teaches that a heated ink transfer roller is an effective mechanism for evaporating solvent from ink.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi in view of Hornschuh as applied to claim 10 above, and further in view of Hahne et al., US 6,285,032 B1 (hereafter Hahne).

The combination of Adachi and Hornschuh teaches all that is claimed as discussed in the rejection of claim 10 above.

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The combination of Adachi and Hornschuh does not teach wherein the mechanism for effecting solvent evaporation is a source of electromagnetic radiation that irradiates the ink on the ink transfer roller.

Hahne teaches a source of electromagnetic radiation that irradiates the ink on the substrate (col. 2, ll. 18-31), which causes the solvent to evaporate (col. 1, ll. 45-46).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Adachi to include a source of electromagnetic radiation that irradiates the ink, because Hahne teaches that this helps to evaporate the solvent in the ink.

#### *Response to Arguments*

7. Applicant's arguments filed 27 September 2006 with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leo T. Hinze  
Patent Examiner  
AU 2854  
08 December 2006

  
**JUDY NGUYEN**  
**SUPERVISORY PATENT EXAMINER**



U.S. Appln. No.: 10/528,579  
Atty. Docket No.: P70214US0

Annotated Sheet

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Fig. 1  
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